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DEFEATING FUTURE URBAN INSURGENCIES: ADAPTING OPERATIONAL DESIGN TO THE EMERGENT REALITY

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Within the context of emerging operational art within modern insurgencies and increasing global urbanization, there needs to be a mechanism at the operational level that can "tune in" to the dynamics at play reflecting the nature of networked systems, such as the counterpoints of order-randomness, structure- agency, and strategy- impulse, as well as their ability to learn and adapt. Modern Operational Art confronting an insurgent threat must 1) develop a more holistic and thorough understanding of urban insurgencies, 2) leverage operational and tactical learning within a combined, joint and interagency response, and 3) promote an environment of adaptation, innovation or change within campaign design in order to tailor "forms of function" to achieve desired strategic and tactical results. Systemic Operational Design (SOD) seeks to replace the classical elements of operational design (CEOD) through the incorporation of Systems Theory and development of a learning organization at the strategic-operational level of war. The learning dimension within SOD enables the operational level commander to lead and take action utilizing the entire spectrum of a combined, joint, interagency response; understand the dynamics <u>of</u> individual networks or systems and the dynamics <u>on</u> these leading to insights regarding emergent behavior; and reframe his understanding and vision of the system in congruence with the strategic endstate.

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EXECUTIVE SUMMARY

Subject: **DEFEATING FUTURE URBAN INSURGENCIES: ADAPTING OPERATIONAL DESIGN TO THE EMERGENT REALITY**

Thesis: Modern Operational Art confronting an insurgent threat must 1) develop a more holistic and thorough understanding of urban insurgencies, 2) leverage operational and tactical learning within a combined, joint and interagency response, and 3) promote an environment of adaptation, innovation or change within campaign design in order to tailor "forms of function" to achieve desired strategic and tactical results.

Background: Within the context of emerging operational art within modern insurgencies and increasing global urbanization, there needs to be a mechanism at the operational level that can "tune in" to the dynamics at play reflecting the nature of networked systems, such as the counterpoints of order-randomness, structure- agency, and strategy- impulse, as well as their ability to learn and adapt.

Discussion:

- Instead of relying on previous paradigms, modern urban insurgents' operational patterns are emerging from historic and environmental analysis, developing into an operational art.
- An insurgent or terrorist group that can learn will act in a systematic manner to fulfill its strategy and adapt to evolving circumstances without relying on chance to achieve its goals.
- In order to execute a systems-based approach, the operational level commander must step outside current planning methodologies to develop the type of multi-dimensional integration, planning and execution that incorporates a learning dimension which can examine the systems present within the strategic, operational and tactical spaces.
- Any systems based approach at the strategic-operational level must be congruent with the use of MDMP or MCPP, the problem solving processes used to "develop estimates, plans and orders" and "reach logical conclusions" at the operational-tactical level.
- Systemic Operational Design (SOD) seeks to replace the classical elements of operational design (CEOD) through the incorporation of Systems Theory and development of a learning organization at the strategic-operational level of war.
- A systemic methodology using SOD at the strategic-operational space and a systematic approach using MDMP or MCPP at the operational-tactical space are complimentary within COIN operations.
- The learning dimension within SOD enables the operational level commander to lead and take action utilizing the entire spectrum of a combined, joint, interagency response; understand the dynamics <u>of</u> individual networks or systems and the dynamics <u>on</u> these leading to insights regarding emergent behavior; and reframe his understanding and vision of the system in congruence with the strategic endstate.

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DEFEATING FUTURE URBAN INSURGENCIES: ADAPTING OPERATIONAL DESIGN TO THE EMERGENT REALITY

> Operational Art must evolve toward the cognitive challenge of a learning system, creating a logical framework based on strategic direction for the Tactical Commander to act and the Operational Commander to learn and provide feedback through quality discourse with Strategic Leadership.
>
> Dr. Shimon Naveh, BGEN, IDF (Ret)[1]

INTRODUCTION

Operational art evolves in conjunction with changes or adaptations within the underlying character of warfare and factors specific to the operating environment, such as temporal, spatial, cultural, doctrinal, technological, or political aspects.[2] Commanders at the operational level of war must have a campaign design approach that effectively supports their ability to visualize, describe, direct, lead and assess within increasingly complex operating environments. The emergence of effective operational art within modern insurgencies and increasing global urbanization represent important changes within the operational and tactical environments that challenge the relevancy of today's operational art and design methodologies.

Modern Operational Art confronting an insurgent threat must 1) develop a more holistic and thorough understanding of urban insurgencies, 2) leverage operational and tactical learning within a combined, joint and interagency response, and 3) promote an environment of adaptation, innovation or change within campaign design in order to tailor "forms of function" to achieve desired strategic and tactical results.[3] "Forms of function" is introduced from within the evolving lexicon of Systemic Operational Design terminology. Operational level design teams present tactical level planners with guidance regarding a "form of function" in order to accomplish a mission based on a conceptual

framework or systemic understanding regarding the operating environment and the unique strategic logic within the current situation.[4] Existing forms of military doctrine, command and control, tactical maneuver or movement, force structure, or other non-military means of national power may be used or a new form may be created to meet the existing operational and tactical challenges.

Within the context of emerging operational art within modern insurgencies and increasing global urbanization, there needs to be a mechanism at the operational level that can "tune in" to the dynamics at play reflecting the nature of networked systems, such as the counterpoints of order-randomness, structure- agency, and strategy- impulse, as well as their ability to learn and adapt.[5] Before proposing a design methodology that may provide a more adequate conceptual framework and a more complete rationalization of the enemy's logic, urban insurgency will be defined and a model for its operational art explored. Relevant conclusions regarding previous counterinsurgency (COIN) strategies will be examined to illustrate that attempts to simply combine or mimic previous techniques within future campaign design will be inadequate if there is a failure to fully rationalize the enemy's operational logic. The adequacy of today's operational art and architecture, specifically the development of an Effects-based Approach for Joint Operation Planning, to design, plan and execute successful COIN campaigns will be challenged. Finally, Systemic Operational Design will be introduced as a campaign design methodology that can better rationalize complex adaptive systems, develop pattern recognition based on organizational learning and promote an environment of adaptation, innovation or change within campaign design in order to tailor "forms of function" to achieve desired strategic and tactical results.

WHAT IS AN URBAN INSURGENCY?

It is useful at this point to define what is meant by insurgency and explain how the environmental dynamic of increased urbanization has impacted its operational and tactical evolution. An insurgency can be defined as a political war between an incumbent government and a group with the intent to force non- revolutionary or revolutionary change and radical socio-economic-political restructuring of a nation-state or region and its governance through both symmetric and asymmetric means.[6]

Insurgents and governments compete for legitimacy in the eyes of the people, whether that population is within one region, country or even global. Governments that cannot or will not satisfy the legitimate needs and expectations of their people will eventually face a direct challenge to their physical and moral right to govern by armed, non-state insurgent groups.[7] While this underlying tenet describing the nature of revolutionary warfare remains viable, changes in the operational and tactical environments have caused the operational logic of modern day insurgents to shift increasingly toward urban operations.

Government and international agencies predict that between 2000 and 2015, global urban populations will soar from 2.8 billion to nearly 6 billion people and the number of mega-cities with populations over 5 million will climb from 41 to over 50.[8] A state apparatus, represented by a series of inter-locking institutions, is increasingly challenged when addressing the primary expectations of expanding urban populations. Rapid urbanization within developing or underdeveloped countries illustrates a trend toward decreasing standards of living; greater resource competition; gaps in services caused by increased dispersion among government agencies, police, security and military

forces; and the development of 'informal cities', characterized by slums, shantytowns and illegal tenements, as unsustainable societal fringes. Unrestrained urban growth without a corresponding level of industrial, commercial, employment or infrastructure growth will increasingly challenge government legitimacy, accelerate the evolution of state failure, and change the competitive dynamic toward an insurgent's advantage.[9]

Over the past century, urbanization often troubled revolutionary struggles, but now metropolitan areas emerge as an integral part of an insurgency's initial strategy and tactical execution. Finding the ideals of rural-based revolution established by Mao Tse-tung irrelevant to conditions and unable to match the military strength of their opponents, insurgents have been quick to realize that an urban-based strategy may hold some competitive advantages. These may include control over territory problematic for security and military forces, secure bases for operations against the government, and greater opportunities for media and international attention.[10] Although the competitive advantages of an urban-based insurgent strategy were apparent, the development of an effective operational art to implement that strategy took several decades to emerge.

URBAN INSURGENCY AND OPERATIONAL ART

Despite the writings of early proponents of urban-based insurgent action, such as Carlos Marighella, Regis Debray and Abraham Guillen, revolutionary theorists in the vein of Vladimir Lenin or Mao Tse-tung did not emerge to provide a successful operational and conceptual framework for urban insurgencies.[11] Instead of relying on previous paradigms, modern urban insurgents' operational patterns are emerging from historic and environmental analysis, developing into an operational art.

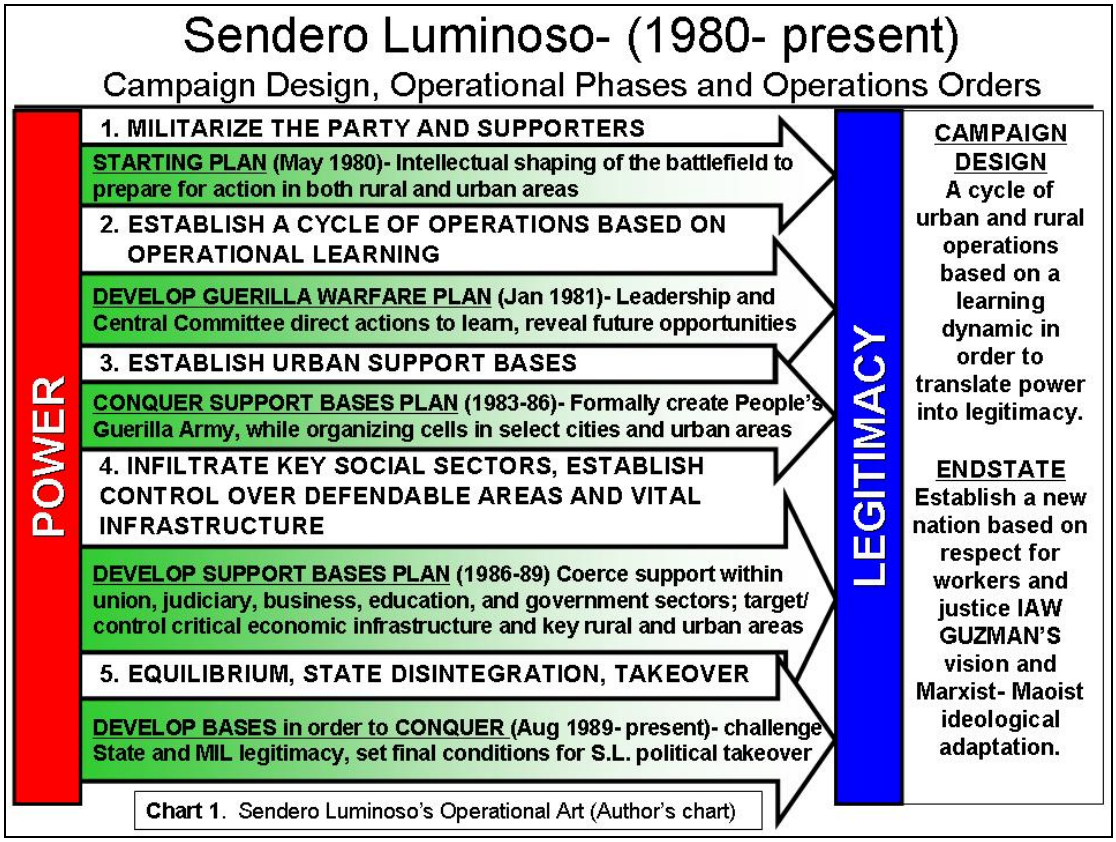
Historical examples facilitating understanding of the trend toward increasingly urban insurgency operations commence with Castro and Guevara's Cuban guerilla "foco" and the generation of insurgents that immediately followed in Latin America. The Cuban Model was primarily a rural-based insurgency with an operational pattern that included beginnings in the countryside, followed by the establishment of small urban cells to undermine the regime from within as rural-based guerillas closed on it from without.[12]

After several failed attempts to export this model within South America, subsequent insurgent leaders established a new pattern based on the use of cities and urban slums as the primary, if not exclusive, area of operations.[13] This eventually led to the development of an operational art by Sendaro Luminoso in Peru, the first modern insurgency that effectively operationalized a dual strategy that maximized the combined effects of a diversified urban and rural campaign to achieve its strategic goals.

Sendaro Luminoso or the Shining Path, an insurgent movement established by Abimael Guzman in 1970, exploits the traditional tensions between Peru's indigenous rural population of the sierra and the Spanish-speaking urban culture of the coastal plain.[14] Through an adaptation of Marxist-Maoist ideology and a clear understanding of the unique spatial, social, economic and political aspects present in Peru, Guzman was able to conceptualize a combined rural-urban insurgency and design a campaign plan to translate his concept into a sequence of operations to achieve overall strategic goals.

As shown in Chart 1, Sendero Luminoso's model of insurgent operational art demonstrates a sequence of plans designed to translate latent political and military power into legitimate rule. Synergy was achieved through shaping actions in Lima and other regional department capitals by urban cells to disrupt the government's claim of

legitimacy combined with operations throughout the countryside to envelop Lima, sever its lines of communication, and set the conditions for assuming power.[15]



The group established an operational pattern that revealed it as a complex, adaptive "learning" type organization.[16] Guzman and the Central Committee that served as the strategic and operational leadership executed a cycle of operations that capitalized on the action-reaction-counteraction dynamic to act, learn about government responses and plan subsequent action cycles on the basis of that learning.[17] Sendero Luminoso's organizational learning dynamic embedded within its strategic-operational design and planning distinguish it from other groups merely executing an Orient, Observe, Decide, Act (OODA) cycle response. To a degree far greater than early proponents or practitioners of urban insurgent actions, Guzman's success as a practicing guerilla/theorist illustrates the effectiveness of the concurrent development of a cult of

personal leadership, a well defined operational art, and a dimension of organizational learning within an insurgent movement.

Conclusions regarding the evolution of operational art within urban insurgencies provide an effective lens in order to view current and future COIN planning and operations. Counterinsurgency operations within this context require a deeper understanding of national, regional and local state structures and activities as they respond to domestic political, economic and cultural forces in order to maintain their legitimacy. Of primary importance is the understanding that an insurgent or terrorist group that can learn will act in a systematic manner to fulfill its strategy and adapt to evolving circumstances without relying on chance to achieve its goals.[18] This emergence clearly challenges modern COIN campaign design, architecture and methodologies and serves as an unwelcome harbinger of things to come.

COUNTERINSURGENCY (COIN) OPERATIONS

> The one who directs a war against a revolutionary movement will not find in Mao and other revolutionary theorists the answers to his problems.
>
> David Galula, *Counterinsurgency Warfare- Theory and Practice.*[19]

In order to draw relevant conclusions from examples of successful COIN operations against urban insurgencies, it is important to recognize that, just as the insurgents themselves discovered, merely transplanting operational concepts and tactical techniques from other conflicts is not the answer. An emergent theme throughout analysis of theory and history is that successful COIN operations viewed the insurgent, indigenous people and government as types of complex, adaptive systems and developed a methodology to learn more about each as a means to defeat the insurgency.

Several theorists' opinions regarding the central tenets of COIN operations and campaign design drawn from practical experience and history are shown in Table 1.

	Trinquier	**O'Neill**	**Galula**
Central Tenet(s) of COIN	The insurgent tries to exploit internal tensions of the country attacked, such as the ideological, social, religious, economic, and political dynamics. The government and COIN forces must win the unconditional support of the population. Victory will be obtained only through the complete destruction of the insurgency.	COIN operations must address the critical variables used by insurgents to develop and apply their strategies: 1) Environment 2) Popular support 3) Organization and unity 4) External support 5) Government response[20]	Victory in COIN equals the destruction of the insurgent forces and the political organizations *and* permanent separation of insurgents from the people, *and* must be enforced *by* and *with* the population. One cannot understand the theory and practice of COIN without understanding the socio-political-economic intricacies of the "cause" which the insurgents use to rally support.[21]
COIN Campaign Design	"requires an interlocking system of actions- political, economic, psychological, military- that aims at the [insurgents intended] overthrow of the established authority in a country…"[22]	It must provide a framework that brings decisive action upon the factors that have a crucial bearing on the nature of the insurgency.	A confluence of military and nonmilitary operations defeats the insurgents. This requires an organization vested with the power to coordinate political, economic, social and military elements.[23] • Destroy or expel insurgent forces • Deploy the static unit • Contact with/ control of population • Destroy insurgent political organization • Conduct local elections • Test local leaders • Organize a political party • Win over or suppress the last guerilla

Table 1. COIN Theorists- Central Tenets and Recommendations for Campaign Design (Author's compilation)

Trinquier, O'Neill and Galula agree that the effectiveness of a COIN campaign must be measured by a government's ability to successfully integrate all of the elements of national power within a cooperative, holistic and long-term process that directly supports the achievement of the political endstate: continued legitimacy in the eyes of the population and defeat of the insurgency.[24] Lessons gleaned from several decades of

response to the urban insurgent threat around the world support this conclusion and provide greater insight into effective COIN operations. These include:

- A multi-dimensional, joint, interagency response within an effective Civil-Military command and control structure at the core of the COIN campaign.[25]

- Police and security elements used as the primary means to defeat the insurgents, backed by selective use of military power to reinforce and provide internal containment and external isolation of the insurgents.[26]

- Political efforts to rebuild public trust and strengthen the national, regional and local government structure's legitimacy.[27]

- Judicial and legislative efforts focused on reform, while effectively balancing anti-terrorist legislation and prosecution with normal constitutional practices to ensure popular support and guarantee the government's social contract with its people.[28]

- Intelligence support of tactical military actions and operational level congruence with the desired strategic endstate is dependent upon the acquisition, coordination and dissemination of information and analysis accomplished by a centralized, fully integrated intelligence organization.[29]

- Pseudo-operations, characterized by the use of government forces and defectors portraying themselves as insurgent groups, can be used to disrupt enemy command and control and gain valuable human intelligence (HUMINT), but must be under centralized control within a coordinated operational effort.[30]

- The consequences of a "Dirty War" facilitated by the failure of a government to assert proper civilian control of the military or security forces within a COIN operation removes the moral legitimacy of the incumbent government, destroys public support, and plays directly into the insurgency's competitive strategy.[31]

- "Decapitation strategies" targeting key insurgent leaders may be ineffective as new leaders emerge and/or martyrs are created for the insurgency's ideological cause.[32]

In addition to these important lessons, O'Neill's work illustrates that an insurgency should be viewed as a system that develops and applies strategies dependent on five interrelated variables listed in Table 1- environment, popular support, organization and unity, external support and government response.[33] Within the constellation of systems that would represent the insurgent, people and legitimate

government, an insurgency would, "…continually adapt to changes in its environment and respond to enemy action. It thus maintains operational equilibrium in order to continue to pursue its aim."[34] This adaptive learning behavior by insurgents should signal a shift from a paradigm based on a fanaticism, mechanistic terrorism and criminal activities toward one based more on natural, biological systems as a way of perceiving, conceptualizing and understanding the enemy and its relationships.

Precedent has been established by successful COIN effort leaders, such as Generals Sir Harold Briggs, Sir Robert Thompson and Sir Gerald Templer in Malaya (1948-1960), Major General Sir Walter Walker in Borneo (1962-66) and Carabinieri General Alberto Dalla Chiesa in Italy (1974-82). These leaders approached the entire enterprise to defeat the insurgency as an exchange between systems, actively sought out a means to develop a more holistic understanding of the enemy by directing their intelligence efforts on the interrelationships and friction points within the enemy system, and focused on defeating the insurgent's strategic aims as they executed their missions.

AN EFFECTS-BASED, SYSTEMS APPROACH

> A System is a complex of interacting elements. The dichotomy between the system and its parts requires the preservation of a controlled disequilibrium between the system's general aim (its reason for being) and the specific missions and roles performed by its parts that correspond to that aim.[35]
>
> Ludwig von Bertalanffy, 1968.

Current U.S. operational art recognizes a "cognitive tension" between strategic level objectives and tactical level mechanical execution, requiring reconciliation by the operational level commander.[36] A military force, using classical elements of operational design (CEOD), can develop a campaign of rapid tactical military victory through decisive battles of annihilation, yet achieve only limited operational or strategic success

or even fail due to an incomplete conceptual framework for understanding an adaptive enemy's logic.[37] In order to execute a systems-based approach, the operational level commander must step outside current planning methodologies to develop the type of multi-dimensional integration, planning and execution that incorporates a learning dimension which can examine the systems present within the strategic, operational and tactical spaces.

Today's scaleable, yet analytical-mechanistic approaches toward campaign planning, Military Decision Making Process (MDMP) and Marine Corps Planning Process (MCPP), along with the recently introduced Effects-based Approach for Joint Operation Planning, are presented shown in Chart 2.

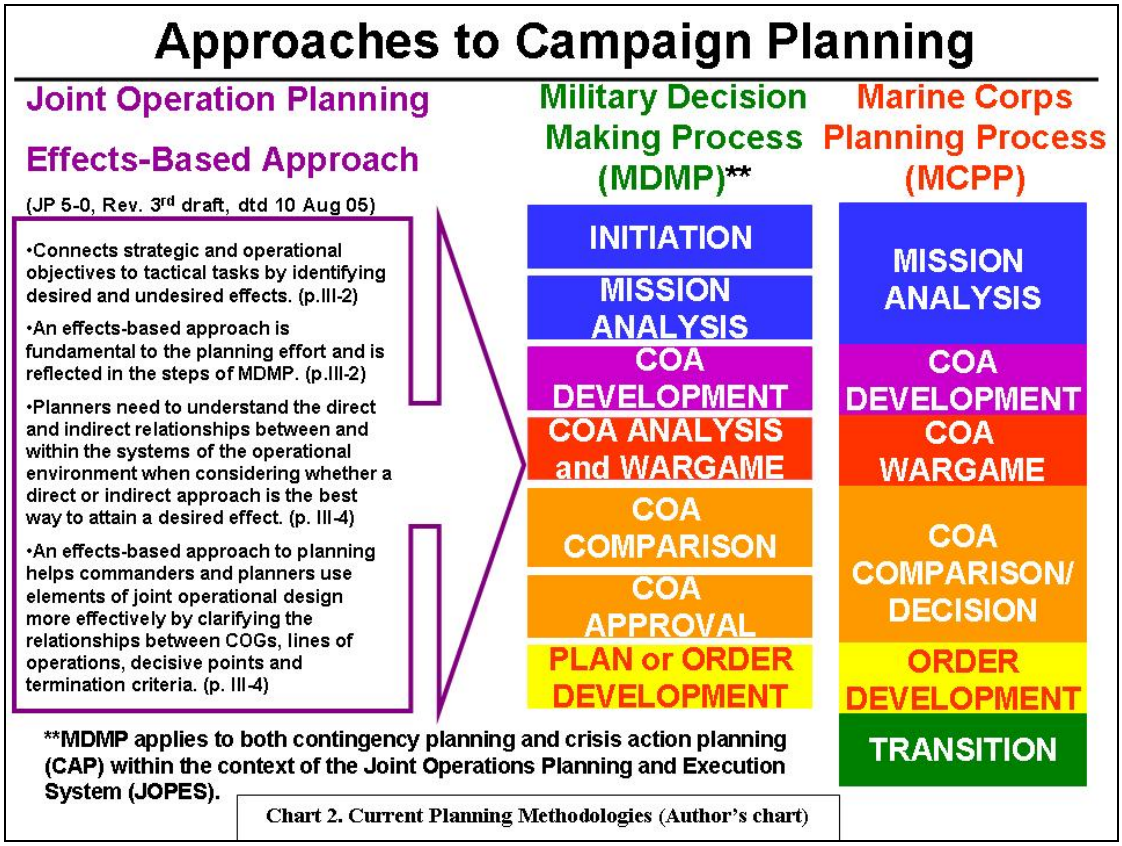


Chart 2. Current Planning Methodologies (Author's chart)

Any systems based approach at the strategic-operational level must be congruent with the use of MDMP or MCPP, the problem solving processes used to "develop

estimates, plans and orders" and "reach logical conclusions" at the operational-tactical level.[38] However, Joint formal development of an effects-based, systems approach to operational design, as illustrated in Chart 3, using the existing planning methodologies of MDMP and MCPP presents several areas problematic to its implementation within a COIN environment. These include 1) the lack of a commonly accepted planning methodology for unified action within a joint, combined, interagency response, 2) the nature of intelligence products required to support a systems approach, and 3) the ability to assess the dynamics <u>of</u> individual networks or systems and the dynamics <u>on</u> the same.

Effects-based, Systems Approach to Operational Design

(JP 5-0 Joint Operation Planning, Rev. 3rd draft, dtd 10 Aug 05)

Figure IV-2. Elements of Operational Design

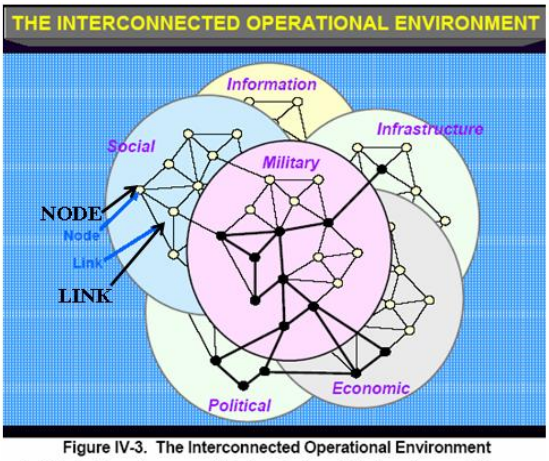


Figure IV-3. The Interconnected Operational Environment

- A comprehensive systems perspective considers various individual systems and their relationship to others. These include political, military, economic, informational, infrastructure, and other systems and subsystems. (p. III-8)
- Understanding these systems, their interaction with each other, and how system relationships will change over time will increase the JFC's knowledge of how individual actions on one element of a system can affect other interrelated system components. It also helps intelligence analysts with COG analysis and planners with operational design by identifying nodes in each system, the links (relationships) between nodes, critical factors, and potential decisive points. (p. IV-8)
- As part of joint IPB, the J-2 is responsible for managing the analysis and development of products that provide a systems understanding of the operational environment.

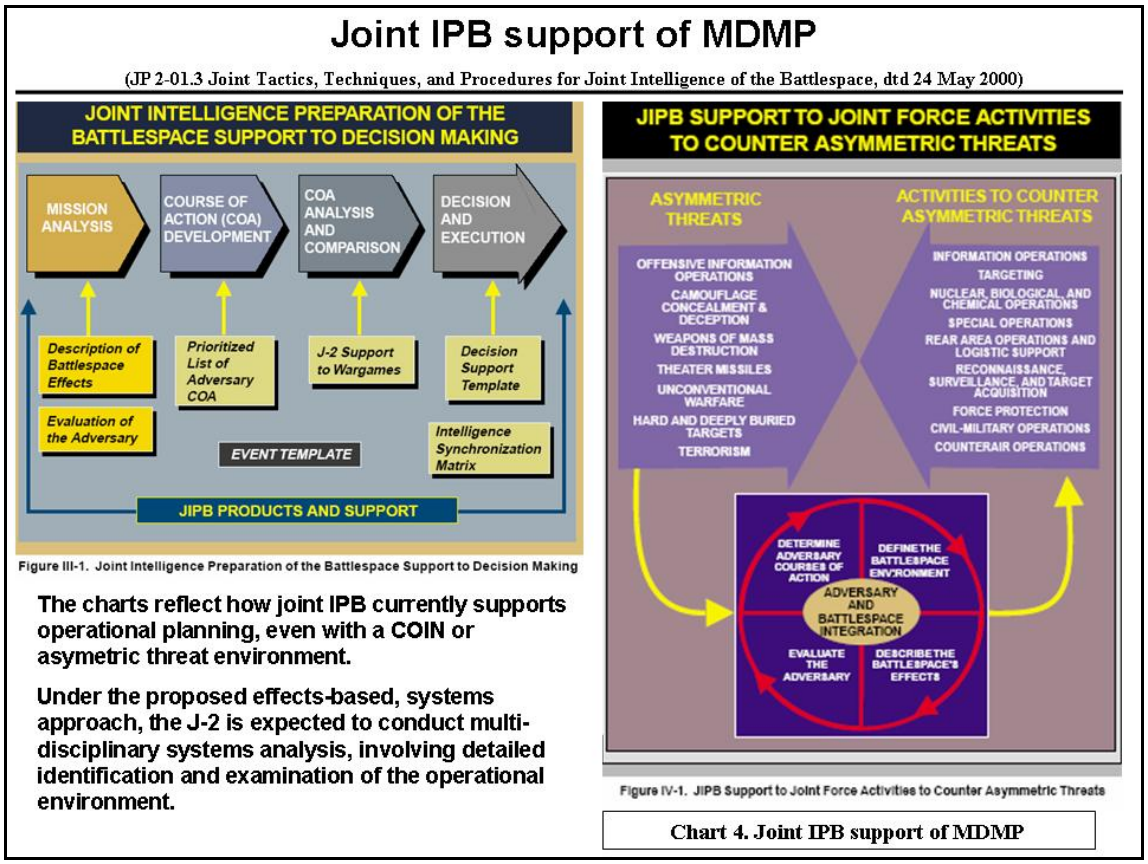
Chart 3. Effects-based, Systems Approach to Operational Design

First, within a COIN environment, the joint force commander will seek to maximize unified action across a wide spectrum of government agencies, NGOs, and multinational partners. This will require a commonly accepted planning process, as well as the ability for these collaborative partners to fully understand and contribute toward

the common systems perspective within the operational design. The problems created by ambiguous roles, opposing cultures and differing approaches to problem-solving and decision making within Combined Joint Task Force Seven (CJTF-7) and the Coalition Provisional Authority (CPA) during 2003-4 in Iraq should serve as a clear indication that implementation of a systems approach across interagency, joint and coalition forces will be a daunting task.[39]

Second, as stated within Joint Publication JP 5-0, *Joint Operation Planning, Revision, Third Draft (3)* dtd 10 August 2005, the joint force intelligence directorate (J-2) will be responsible for developing and maintaining this common systems perspective. The nature of intelligence products required to support a systems approach is markedly different from current Joint Intelligence Preparation of the Battlespace (IPB) support of MDMP or MCPP within a COIN environment as shown in Chart 4. Revision of current IPB processes and a reappraisal of the relationships between the greater intelligence community and multinational coalition partners will be necessary in order to provide adequate analysis of the many divergent systems present within the battlespace.[40]

A final area of concern regarding an effects-based, systems approach deals with assessment. Effects assessment monitors the physical or behavioral state of a system resulting from operational and tactical actions, either in kinetic or nonkinetic, military or non-military forms.[41] As shown earlier in Chart 3, the effects-based approach identifies nodes (the specific physical, functional or behavioral entities of a system), and links (the physical, functional of behavioral relationships between nodes), while assessing the



system's and nodes' important capabilities and vulnerabilities within Center of Gravity (COG) analysis.[42] Without understanding the dynamics of individual networks or systems and the dynamics on these, identification of center(s) of gravity within complex, distributed networks will not only be problematic, but insights regarding the system as a whole will not be captured and learning at the operational level will not occur.[43]

An additional obstacle to effective assessment lies within the membership of the operational commanders' staff. Within a COIN environment, the competition between the incumbent government and insurgents for the support of the population may hinge upon assessment of a social decision rule called the threshold rule, defined as how easily an individual or group is influenced to decide or cross the threshold between two options.[44] The operational commander, concerned about positively influencing collective decision making, will need to assess effects in terms of what decisions the population as a

whole will make. In order for this to happen, operational assessment within COIN needs to be conducted by a joint, interagency, and combined group composed of experienced government and military officials, social scientists, police and security officers, and regional experts usually found external to the staff.

Examination of operational art within current insurgent threats, such as al Qaeda, indicates a continued cognitive evolution, in this case within a "pansurgency" strategy, with a learning dimension based on experiences of friend and foe alike.[45] A systems approach to operational design using the Joint Effects-based Approach coupled with the current planning methodologies seems inadequate to conduct the type of multi-dimensional integration, planning and execution involving operational level coordination and leadership of all of the elements of national power within a COIN effort.[46] Moreover, the proposed methodology does not leverage operational and tactical learning or permit tailoring "forms of function" repeatedly and at a tempo greater than the opponent. A systemic methodology that is complimentary toward systematic planning approaches, such as MDMP or MCPP, and contains a learning dimension is required.

SYSTEMIC OPERATIONAL DESIGN (SOD)

Dr. Shimon Naveh, a noted Israeli operational theorist and soldier, and his multi-disciplinary team at the IDF's Operational Theory Research Institute (OTRI) have developed a philosophy and methodology for campaign design reflecting systems theory with the core tenet that systemic logic ties strategic guidance to tactical action through design at the operational level.[47] Currently being explored within the Joint *Unified Quest Exercise* series, Systemic Operational Design (SOD) seeks to replace the classical

elements of operational design (CEOD) through the incorporation of Systems Theory and development of a learning organization at the strategic-operational level of war. Naveh states that operational art is reflected within four dimensions-

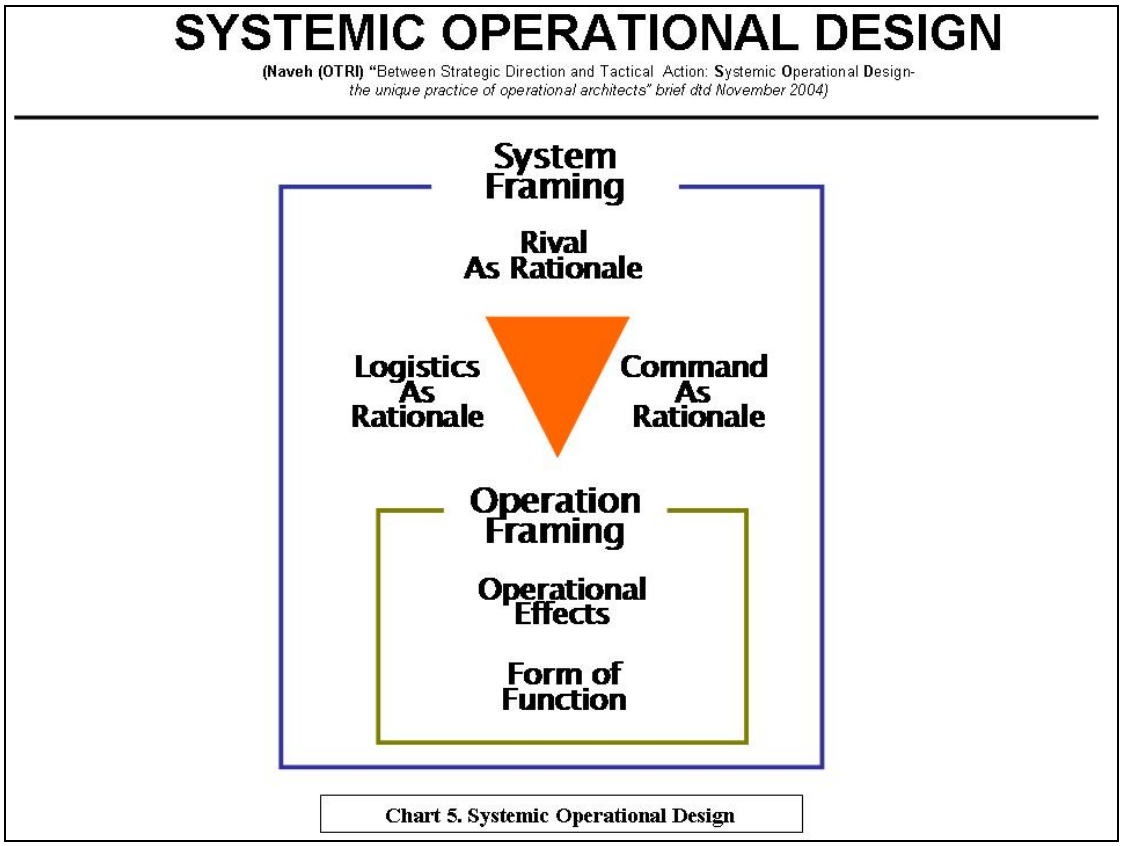
> 1) Command Dimension, with operational art as an environmental medium that synthesizes the functions of strategic and operational command systems
>
> 2) Learning Dimension, with operational art as a cognitive medium enabling a constant process of inquiry within the emerging operational and tactical context
>
> 3) Systemic Dimension, with operational art as a conceptual medium that places tactical level action based on strategic direction within a systems context, utilizing both exogenous (factors outside the system) and endogenous (factors inside the system) approaches to create an overall framework that supports the operational commander's ability to visualize, describe, direct, lead and assess within a complex operating environment
>
> 4) Organizational Dimension, with operational art reflecting the form and structure of operational level organizations.[48]

Systemic Operational Design recognizes that the operational commander and the national-level command authority require an internal learning process and discourse in order to recognize the emergence of patterns within the tactical or operational spheres. Since the true nature of the enemy's system can never be fully known and political-strategic guidance is often vague when contrasted against the complexity of a given problem, the operational commander must construct his own cognitive reality or operational level understanding by mapping out or framing the system.[49]

In this manner, the SOD process enables the commander to visualize the entire operational space before any detailed planning using processes such as MDMP or MCPP occurs. A systemic methodology using SOD at the strategic-operational space and a systematic approach using MDMP or MCPP at the operational-tactical space are complimentary within COIN operations. Developing a deeper understanding of the

enemy as a system provides knowledge regarding motives, decision-making, organization and strategy. A systematic approach using the existing planning methodologies would take the deeper understanding developed through SOD and apply action along multiple lines of operation to change the country, city or enemy system in order to make the projected endstate (representative reality) emerge from the current situational understanding. Thus, the situational understanding, cognitive reality in Naveh's terms, developed within SOD by the operational level commander's design team would be used throughout the detailed planning processes, and, most importantly, during and following execution as part of an embedded organizational learning process.

The Systemic Operational Design process is illustrated in Chart 5. Throughout *System Framing*, an operational-level commander's design team uses a series of meta-questions to explore both independent and dependent variables within the problem and discourse with the strategic sponsor to determine the nature of the systems within its strategic, operational and tactical environments. It is important to recognize that this design team needs to be a multidisciplinary, permanent part of the commander's planning group, incorporating military and non-military, joint and combined, and interagency expertise. The operational commander must be able to fully exploit both kinetic and non-kinetic forms of function using combined, joint and inter-agency assets within COIN. The integration of existing Joint Interagency Coordination Groups (JIACG) as full members of a design team using SOD for planning, learning and assessment would represent a leap forward toward addressing many of the shortfalls noted within this paper regarding the design, planning, and execution of COIN operations.[50]



Within the context of counterinsurgency operations, a Social Process Analysis (SPA) "Triangle", as illustrated in Chart 6, can be used within *System Framing* in order to reflect the major dynamics and interdependent economic, political and cultural realms of a state.[51] The same methodology can be used to represent major cities within the country system, as well as the insurgency itself. Thus at the operational level, the government, its major cities and towns, and the insurgency can be viewed as complex adaptive systems. Through the recognition of these complex adaptive systems, the operational commander gains "entry" or insight into connected networks.[52]

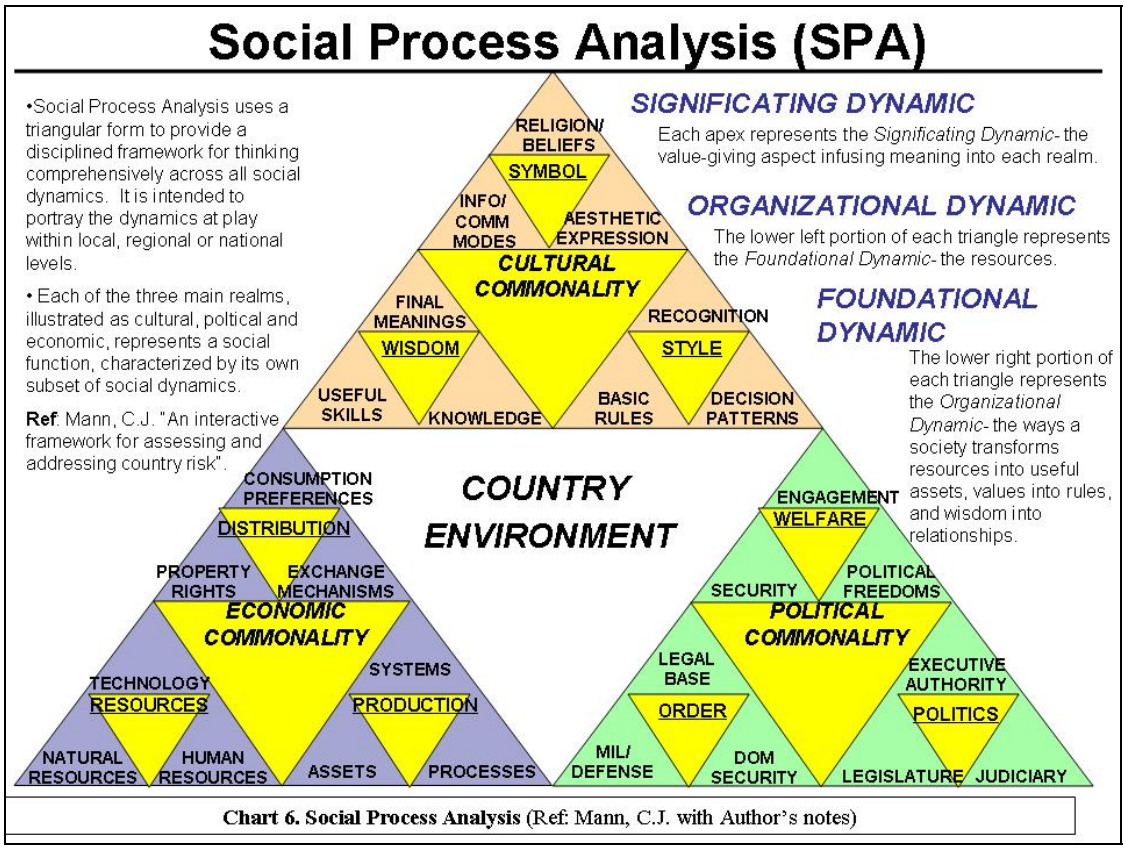


Chart 6. Social Process Analysis (Ref: Mann, C.J. with Author's notes)

Following *System Framing,* a holistic examination of the rationales of the *Command, Logistics* and *Rival* (Enemy) dimensions allows the design team to establish a basis for future design and planning.[53] For example, during *Rival as Rational,* the enemy's or rival's culture, command and control, learning dynamic, organizational system and operational maneuver patterns are explored in depth to present a more complete, systems view.[54] Within SOD, the J-2 set the conditions to enable the commander to develop an operational understanding via a descriptive roadmap that portrays the enemy's overall context without bias. Markedly different from traditional IPB, SOD requires the design staff, as well as the J-2, to use meta-questions in order to provide information, insight and set the conditions for discussion and learning within the design process through post-execution assessment.

The design team then constructs a vision of the future status of each of the systems present within the operational environment based on discourse and balanced with strategic endstate. This vision, called the *Operational Framing*, forms a projected endstate (representative reality), that when coupled with the operational understanding (cognitive reality), leads toward more effective operational design.[55] Within a COIN environment, operational objectives and action reflected within *Operational Framing* can take the form of multi-dimensional operations focused on enhancement or degradation of capabilities, isolation and separation of the enemy from the population, and domination or control of urban dynamics within the framework of a commander's decision cycle.

An organizational learning cycle within *Operational Framing* is developed, where *Forms of Function* are explored, tactical level military or non-military, kinetic or non-kinetic action is taken, and *Operational Effects* are assessed against the projected endstate. The learning dimension within SOD enables the operational level commander to lead and take action utilizing the entire spectrum of a combined, joint, interagency response; understand the dynamics <u>of</u> individual networks or systems and the dynamics <u>on</u> these leading to insights regarding emergent behavior; and reframe his understanding and vision of the system in congruence with the strategic endstate.[56]

For example, within the context of operational art focused on learning from pattern emergence within and between systems, commanders tailor *Forms of Function* to promote adaptation or innovation within campaign design in order to achieve desired strategic and tactical results. Existing forms of doctrine, command and control, tactical maneuver or movement, force structure, or other mechanisms within the organization may be used or may be determined to be inadequate to meet the existing operational and

tactical challenges. Within urban COIN operations, the operational commander may redesign tactical maneuver patterns; deform tactical movements from massed formations into small unit infestation; and view intelligence gathering and action as co-equals within a move-identify-engage-learn cycle and SOD.[57]

Using Naveh's theory of Systemic Operational Design, the COIN problem is presented as a complex system of systems, instead of placing the problems' solution as a decision between courses of action. Because urban insurgencies focus on political and psychological objectives while avoiding decisive actions within a purely military battlespace, operational design must factor in the need for a learning dimension within multi-dimensional operations. In this manner, SOD enables the operational level commander to determine if organizational learning at the tactical level through kinetic or non-kinetic engagements is congruent with the *Operational Framing* used within the campaign design to resolve the tensions between the strategic and tactical levels of war.

CONCLUSION

> Where there is a question mark, there is learning. Where there is nothing but exclamation marks, there can be no learning. That (space) is where you want the enemy to be. Dr. Shimon Naveh, BGEN, IDF (Ret)[58]

The development of SOD and its experimentation within the U.S. suggests that operational commanders in the future will advance their organizational learning, developed as a result of numerous tactical engagements or non-kinetic actions against an urban insurgency, into operational insight through the use of a holistic campaign planning methodology that better rationalizes complex adaptive systems to achieve a strategic aim. This development is critical, presenting the opportunity for strategic and operational

leadership to develop the type of broader perspective and richer context necessary to defeat tomorrow's urban insurgency before being fully engaged militarily. What is clear is that future leaders must be able to define the enemy system; examine COIN theory and history in order to draw correct conclusions; question operational design architecture and develop a more systemic means; and develop operational and tactical diversity with a multi-dimensional approach to COIN operations.

NOTES

[1] Dr. Naveh, Shimon, BGen, I.D.F.(Ret), "Discoursive Command – Operators – Systemic Operational Design: A New Framework for Strategic Epistemology", notes from presentation to Command and General Staff College, Ft Leavenworth, KS, 26 April 2005, and author's notes from IDF Operational Art and Systemic Operational Design (SOD) training seminar/ workshop, May 31-June 17, 2005.

[2] There are many interpretations of Operational Art within military publications, doctrine and writings. Joint Publication 1-02, *Department of Defense Dictionary of Military and Associated Terms*, defines Operational Art as "The employment of military forces to attain strategic and/or operational objectives through the design, organization, integration and conduct of strategies, campaigns, major operations and battles. Operational Art translates the joint force commander's strategy into operational design and, ultimately, tactical action, by integrating the key activities at all levels of war.", 389.

[3] Author's notes from IDF Operational Art and Systemic Operational Design (SOD) training seminar/ workshop, Tel Aviv, Israel, May 31-June 17, 2005.

[4] Ibid.

[5] Watts, D.J. *Six Degrees: The Science of the Connected Age*, 92-99.

[6] Manwaring, M.G. *Shadows of things past and images of the future: Lessons for the insurgencies in our midst*, 1-2. For other definitions see David Galula, *Counterinsurgency Warfare: Theory and Practice*, such as his adaptation of Clausewitz, "Insurgency is the pursuit of the policy of a party, inside a country, by every means.", "….a protracted struggle conducted methodically, step by step, in order to attain specific intermediate objectives leading finally to the overthrow of the existing order.", 3-4; Bard E. O'Neill, *Insurgency & Terrorism- Inside Modern Revolutionary Warfare*, "a struggle between a nonruling group and the ruling authorities in which the nonruling group consciously uses political resources and violence to destroy, reformulate, or sustain the basis of legitimacy of one or more aspects of politics.", 13; Steven Metz in "A Flame Kept Burning: Counterinsurgency Support after the Cold War.", *Parameters*, Autumn 1995, "…insurgency should be considered as simply protracted, organized violence- whether revolutionary or non-revolutionary, political or non-political, and open or clandestine- which threatens security and requires a government response.", 36.

[7] Manwaring, 35.

[8] "Urbanization and Global Change Report", University of Michigan, dtd 24 Dec 2004, 1-2. Complete report can be accessed at (www.globalchange.umich.edu)

[9] Taw and Hoffman, *The Urbanization of Insurgency*, i-4. For a discussion regarding critical transformations and their impact on population centers around the world, see Perlman, J.E., "Megacities: Global Urbanization and Innovation", The Megacities Project, Publication MCP-013, 1993 (www.megacitiesproject.org); Moore, Gould and Keary, "Global Urbanization and impact on health", International Journal of Hygiene and Environmental Health, No. 206, 269-270.

[10] Taw and Hoffman, 12.

[11] Carlos Marighella, Brazilian author of *Minimanual of the Urban Guerilla*, viewed urban guerilla warfare as a means to illustrate government weakness by attacking security forces and societal elites through terrorism. His theory fails to develop a link from strategic endstate to tactical actions and was used unsuccessfully by the Tupamaros in Uraguay, Baader-Meinhof Gang in West Germany, and Red Brigades in Italy. French radical Regis Debray, an early proponent of the urban 'foco' and author of *Revolution in the Revolution?*, was with Che Guevara during an unsuccessful insurgency in Bolivia in 1967. Abraham Guillen, author of *Strategy of the Urban Guerilla* in 1966, greatly influenced urban insurgencies in Uraguay, Argentina and Brazil. Guillen argued against the primacy of a rural campaign and suggested that a purely urban-based insurgency or a combined approach could succeed. Within Northern Ireland, the Irish Republican Army used violence to prompt an overreaction by the British Government and there is evidence that it was influenced by both Marighella and Guillen's works.

[12] McCormick, G.H. *From the Sierra to the Cities- The Urban Campaign of the Shining Path.*, 5. Castro and Guevara utilized an organized urban rebellion formed by a loose coalition supporting a small and isolated rural guerilla "foco" which was arrayed against the Batista government in 1957-59. This pattern of struggle was repeated by the FALN in Venezuela, FAR in Guatemala, and ELN in Bolivia.

[13] McCormick, 5-6. This strategy was used by the ERP in Argentina, VPR and ALN in Brazil, Tupamaros and MLN in Uruguay.

[14] For an examination of the factors within Peru that facilitated the rise of the Sendaro Luminoso and a detailed appraisal of the group's past operations and future potential, see Strong, S. *Shining Path--A Case*

Study in Ideological Terrorism; McClintock, C. *Revolutionary Movements in Latin America- El Salvador's FMLN and Peru's Shining Path; Inside Terrorist Organizations*, edited by D.C. Rapoport. Author's Note: Some sources differ regarding SL's founding in 1970, but the year is presented as an approximate starting point.

[15] McCormick, vi-viii.

[16] Strong, Simon. *Shining Path- A Case Study in Ideological Terrorism.* 7-10.

[17] Ibid. Sendero Luminoso's cycle of operations displays an operational pattern of a) preparation, b) intensification of action, c) guerilla warfare, and d) climax, consolidation and complimentary actions. The group has successfully used this pattern since the 1980s and remains a viable threat in Peru today, despite Guzman's capture in September 1992.

[18] Jackson, B.A., Baker, J.C., Cargin, K., Parachini, J., Trujillo, H.R. and Chalk, P. *Aptitude for Destruction- Organizational Learning in Terrorist Groups and Its Implications for Combatting Terrorism, Vol. 1*. 17-26.

[19] Galula, David. *Counterinsurgency Warfare: Theory and Practice*. New York: Praeger, 1962, xi.

[20] Bard, O'Neill, *Insurgency and Terrorism: Inside Modern Revolutionary Warfare*. 90-95.

[21] Tomes, Robert R. "Relearning Counterinsurgency Warfare." *Parameters*, Spring 2004, 21. See also Galula, David. *Counterinsurgency Warfare: Theory and Practice.*

[22] Tomes, 17. See also, Trinquier, R. *Modern Warfare: A French view of Counterinsurgency*. Ft Leavenworth, KS: Combat Studies Institute (CSI) N0-91-5016, Jan 1985.

[23] Tomes, 23-27. See also, Galula, David. *Counterinsurgency Warfare: Theory and Practice.*

[24] Manwaring, v.

[25] Hoffman, B and Taw, J.M. *A Strategic Framework for Countering Terrorism and Insurgency.* 28-30. This study illustrates that the absence of an effective response structure has been the norm within most COIN operations, leading toward an initial competitive advantage by the insurgent. The development of successful, unified response has been at the core of successful efforts in Malaya, West Germany, Italy and Northern Ireland. Additional reinforcement of this point is illustrated by the development of a structure by Presidents Garcia and Fujimori in Peru against the Sendero Luminoso in McClintock, C. *Revolutionary Movements in Latin America- El Salvador's FMLN and Peru's Shining Path;* The Italian response to the Red Brigades is detailed in Manwaring, M.G. *Shadows of things past and images of the future: Lessons for the insurgencies in our midst*. The Italian case illustrates the creation of a temporary Counter-terrorism Task force under the Carbinieri that was given primary responsibility for intelligence and counter-terrorism within an overall strategic response to a non-traditional threat. Within their campaign and under unified leadership, intermediate and long term objectives were planned and executed in congruence with the national strategic goals of defeating the insurgency and reinforcing the government's legitimacy. See also, McLaurin, R.D. and Miller, R. *Military Forces in Urban Antiterrorism*. Aberdeen Proving Ground, MD: U.S. Army Human Engineering Laboratory, Technical Memorandum 12-89, dtd October 1989.

[26] Manwaring, 23-34. For example, within the Italian case, the armed forces assumed an unobtrusive, supporting role, while the State Police, Carbinieri and governmental agencies pursued COIN operations under unified, interagency leadership. This trend was also evident within Malaya, West Germany and Turkey. The opposite can be said of actions in countries like Peru and Iraq, where police forces did not assume primacy due to their own organizational weaknesses, poor relationship with the populace and/or disintegration.

[27] Feickart, Andrew. *U.S. Military Operations in the Global War on Terrorism. Afghanistan, Africa, the Philippines and Columbia*. Congressional Research Service (CRS) Report for Congress, Feb 4, 2005, 4. The establishment of Provincial Reconstruction Teams (PRTs) in Afghanistan following Operation Enduring Freedom is a good example of a rapid response to support the legitimacy of a government through effectively addressing the needs of the population. It is significant to note that a failure to addressing the basic needs of the population fuels insurgencies, especially within urban areas. See also, McNerney, M.J. "Stabilization and Reconstruction in Afghanistan: Are PRTs a model or a muddle?", *Parameters*, Winter 2005-6, 30-46; Chiarelli, P.W., MGen, USA and Michaelis, P.R., Maj, USA. "Winning the Peace: The Requirement for Full-Spectrum Operations." *Military Review*, July-August 2005, which illustrates the direct correlation between a lack of basic services within Baghdad and the rise of urban insurgent activity and support.

[28] Hoffman and Taw, 75-76. Enactment of repressive anti-terrorism legislation and judicial measures outside accepted practice has been shown to be counterproductive and erodes public confidence in

government. Actions to offer clemency or reduced sentences proved effective and upheld the moral standing of legitimate governments. See also, Manwaring's examination of the Italian case illustrates a government committed toward prosecuting its COIN operations with prudence so as to avoid damage to the future stability of its democratic institutions and stability. On the other hand, President Fujimori's actions in Peru demonstrate that civilian leadership toleration of abuses , suspension of habeas corpus, curfews, use of military and special tribunals and suspension of political rights undermined the country's democracy.

[29] Hoffman and Taw, 77-78. LtCol Sir Julian Paget's principles for COIN are offered as a measure of effectiveness regarding this aspect. These principles include 1) An effective intelligence gathering organization should be established before the insurgency begins, 2) Every effort must be made to know the enemy before the insurgency begins, 3) The intelligence organization should be fully integrated, under one Chief of Intelligence, 4) Intelligence must be worked for and not waited for, and its acquisition should be made a top priority for the security forces, 5) The cooperation of the populace, though not essential to the gaining of intelligence, is a tremendous asset, and every effort must be made to win this support, and 6) The best intelligence comes from penetrating the insurgent organizations.

[30] Cline, L.E., *Pseudo Operations and Counterinsurgency: Lessons from Other Countries.* Carlisle, Pa: Strategic Studies Institute, U.S. Army War College, June 2005, 21-26. The use of pseudo-operations against both urban and rural insurgencies allows government forces to exploit the inherent weaknesses of an insurgency's command and control caused by its cellular structure and clandestine nature. Rural COIN examples include Force X in the Philippines against the Huks, Special Branch against the CTs in Malaya, Kitson teams against the Mau Mau in Kenya, and the Selous Scouts against both the ZAPU and ZANLA in Rhodesia. Urban COIN operations using these operators include the Fifth Bureau against the FLN in Algeria and Special Action Teams against the PKK in Turkey.

[31] McClintock, C. *Revolutionary Movements in Latin America- El Salvador's FMLN and Peru's Shining Path.* 139.

[32] *Inside Terrorist Organizations*. D.C. Rapoport, eds., 119-122. See Chp. I on Internal Structure and Conflict for H. McCormick's "The Shining Path and Peruvian Terrorism", 109-126. Despite the highly personalistic leadership style and almost cult-like following of Guzman within Sendara Luminoso in Peru, his capture in September 1992 did not spell the end for the group. Although the identity of its current leader is not known, the group appears to be continuing its cycle of operations as described earlier, albeit at a greatly diminished capacity.

[33] Bard, O'Neill, *Insurgency and Terrorism: Inside Modern Revolutionary Warfare*. 90-95.

[34] BGen Shimon Naveh, I.D.F.(Ret), "Discoursive Command – Operators – Systemic Operational Design: A New Framework for Strategic Epistemology ", lecture at Command and General Staff College, Ft Leavenworth, KS, 26 April 2005.

[35] Von Bertalanffy, *General Systems Theory- Foundations, Development and Application.* 200.

[36] Miller, T.E., Major, USA. *Counterinsurgency and Operational Art: Is the Joint Campaign Planning Model Adequate?*, 13.

[37] Joint Publication 3-0, *Doctrine for Joint Operations*, III-9-10. Classical elements of operational design include the endstate and military conditions, center of gravity, decisive points and objectives, lines of operation, culminating point, operational reach, approach, pause, simultaneous and sequential operations, linear and non-linear operations, tempo and phasing.

[38] Paz, Richard D., Major, USA. *A Systems Critique of the Military Decision Making Process at the Operational Level of War*. 4. See also FM 3-0, *Operations*, 14 June 2001, 6-14 and MCWP 5-1, *Marine Corps Planning Process*, 5 January 2000.

[39] Schnaubelt, C.M. "After the fight: Interagency operations" *Parameters*, Winter 2005-6, 52-54.

[40] Pendall, D.W., Major, USA. "Persistent Surveillance and its implications for the common operating picture" *Military Review*, November-December 2005, 41. The author introduces persistent surveillance to describe the need for and application of future intelligence, surveillance and reconnaissance (ISR) capabilities to change the content and delivery of intelligence at the operational and tactical levels of war. See also, Nicholson, D.J., Major, USA "Seeing the other side of the hill: The art of battle command, decisionmaking, uncertainty, and the information superiority complex" *Military Review*, November-December 2005; and Thomas, T.S., Major, USAF. *Beneath the Surface- Intelligence Preparation of the Battlespace for Counterterrorism*. Washington, DC: Joint Military Intelligence College, November 2004.

[41] JP 5-0 Joint Operation Planning, Revision Third Draft (3), dtd 10 Aug 2005, III-38.

[42] Ibid, IV-11.

[43] Watts, D.J. *Six Degrees: The Science of the Connected Age*. 54-55.
[44] Ibid, 224-226.
[45] Rapoport, D.C. "Generations and Waves: The Keys to Understanding Rebel Terror Movements", 3-4. Bin Laden's statements and the Al Qaeda manual can be accessed at the Federation of American Scientists' website (http://www.FAS.org/irp/word/aqmanual.pdf); and Blanchard, C.M. "Al Qaeda: Statements and Evolving Ideology" *Congressional Research Service (CRS) Report.* For a definition and thorough examination of al Qaeda as a pansurgency, see National War College report, "Combating Terrorism in a Globalized World". A pansurgency is defined as, "…nonstate actors working globally to create change across international boundaries and across societies.", 14.
[46] Hoffman, B. "Does our Counter-Terrorism Strategy match the Threat?", Testimony presented before the House International Relations Committee, Subcommittee on International Terrorism and Nonproliferation, Sept 29, 2005, RAND, CT-250-1, 2005, 8-11. Hoffman states that due to the "malleable resiliency" demonstrated by Al Qaeda, it cannot be defeated within a single battle or campaign. It represents an "operationally durable, evolutionary and elusive" challenge to existing U.S. counterterrorism strategy and policy that will require a more integrated, systems approach to address its complexity.
[47] Pere, David, LtCol, USMC. *Systemic Operational Design*, unpublished monograph, USMC Doctrine Division, dtd 18 November 2005. Also used are author's notes from IDF Operational Art and Systemic Operational Design (SOD) training seminar/ workshop, Tel Aviv, Israel, May 31-June 17, 2005. A critical distinction is made between systemic and systematic within SOD terminology. SYSTEMIC- : of, relating to, or common to a system. SYSTEMATIC- 1 : relating to or consisting of a system, 2 : presented or formulated as a coherent body of ideas or principles, 3 : methodical in procedure or plan.(Merriam-Webster Online at www.m-w.com).
[48] Ibid. Also author's notes.
[49] Ibid.
[50] Bogdanos, M.F., Col, USMC "Joint Interagency Cooperation: The First Step" *Joint Forces Quarterly*, No 37, 16-18.
[51] Mann, C.J. "An Interactive Framework for Assessing and Addressing Country Risk", 4-5. Mann presents a qualitative model for analyzing a country's social system as framework to use within a risk management methodology. Influenced by systems theory, the framework is designed to a) view any society holistically, b) analyze the underlying dynamics of a society in order to gain insight into differing mindsets, values and institutions, and c) monitor any society in terms of the evolution of social change.
[52] Watts, D.J. *Six Degrees: The Science of the Connected Age*. 54-55. Additionally, Dr. Naveh comments that Social Process Analysis (SPA) illustrates SOD methodology for linked systems and the need for development of operational understanding of the environment. SPA is relevant for SOD within System Framing's examination of the Rival (Enemy) as Rational, but is not fully developed.(From author's notes)
[53] Pere and author's notes.
[54] Ibid.
[55] Ibid.
[56] Ibid.
[57] Author interview with BGen Gal Hirsch, CG, 91st Division, NORTHCOM, IDF, June 8, 2005.
[58] Author's notes from IDF Operational Art and Systemic Operational Design (SOD) training seminar/ workshop, Tel Aviv, Israel, May 31-June 17, 2005.

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